ORIGINAL

Before the
COPYRIGHT ROYALTY JUDGES
Washington, D.C.

In the Matter of	)	**Docket No. 2012-6 CRB CD 2004-2009 (Phase II)**
Distribution of the 2004, 2005, 2006, 2007, 2008 and 2009 Cable Royalty Funds	)	

In the Matter of	)	**Docket No. 2012-7 CRB SD 1999-2009 (Phase II)**
Distribution of the 1999-2009 Satellite Royalty Funds	)	

SETTLING DEVOTIONAL CLAIMANTS' REPLY IN SUPPORT OF THEIR MOTION TO STRIKE AMENDED DIRECT STATEMENT OF INDEPENDENT PRODUCERS GROUP

The Settling Devotional Claimants ("SDC") submit this Reply to support their Motion to Strike the Independent Producers Group's ("IPG") Amended Direct Statement ("Motion to Strike"). As stated in their motion, the SDC combined the Motion to Strike with their Reply in Support of their Motion for Entry of Distribution Order because the two pleadings are fundamentally interrelated. If the Judges act within their discretion to strike IPG's Amended Direct Statement, then there will be no basis for IPG to oppose a distribution order, which the Judges recognized "would be based on a lack of controversy over the satellite royalties in the Devotional category." Order to Show Cause at 2, Sept. 6, 2016.

I. IPG's changes in the Amended Direct Statement were substantive and methodological changes, not mere corrections.

Dr. Cowan changed the form of his regression from a "level-level" regression to a "log-level" regression. This is not merely a formatting change, nor is it a correction of an error. It fundamentally changes the relationship predicted by his regression model.

IPG attempts to hide the significance of this change by suggesting that its changes were "few and obvious," "typographical errors," a "cut-and-paste error," "nominal," or "inconsequential." IPG's Opposition to the SDC's Motion to Strike Amended Direct Statement of IPG at 6, 3, 8 ("Opposition"). IPG falsely claims that Dr. Cowan "erringly omitted a parentheses ['( )'] that otherwise appeared in a mathematical calculation . . . ." *Id.* at 7. IPG neglects to explain that the parentheses were added so that the entire equation could be made exponential, by the addition of the term "*exp*" at the beginning – a necessary adjustment in converting to a different regression model.[1] Perhaps IPG hopes that the other participants to this proceeding do not know what a natural logarithm is. If so, those hopes are about to be dashed.

As explained in the Declaration of Erkan Erdem, attached as Exhibit A, a "level-level" regression model, as Dr. Cowan's initial direct statement described, assumes that a change in one variable predicts a change in another variable on a natural, or linear, scale. Erdem Dec. ¶ 6. A "log-level" regression model, as Dr. Cowan's amended statement describes, assumes that a change in one variable predicts a percentage change in another variable, resulting in a change in that variable on a logarithmic scale. *Id.*

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[1] Dr. Cowan even acknowledged that there was a change to a log-level regression, which he claims was "dictated" by a correction or change "to the data that drove the resubmission of the report." Declaration of Dr. Charles Cowan ¶ 10. Unfortunately, Dr. Cowan has failed to identify what change or correction dictated the change in regression methods. Erdem Dec. ¶ 13.

A commonly known illustration of the difference between a linear and a logarithmic scale is the difference between simple interest and compound interest. Erdem Dec. ¶ 11. A calculation of simple interest can be expressed as an addition of a fixed amount (a percentage of the principal) added to the sum for each period of time, resulting in a linear relationship between time and interest accrued. *Id.* A calculation of compound interest, on the other hand, cannot be expressed in a fixed amount, because it increases as interest accrues. *Id.* An upward-bending curve showing accrual of compound interest is a natural logarithm, *see* Erdem Dec. ¶ 9, Ex. 2, representative of a logarithmic relationship between time and interest accrued.

It is doubtful that parties to a loan agreement would regard a change from simple interest to compound interest to be "inconsequential." Dr. Cowan's change also was not "inconsequential," as his results appear to reflect.

Dr. Cowan gives no explanation for the change in his regression model. We do not yet know whether Dr. Cowan also made other changes that could be more accurately described as error corrections, but he has not identified any. IPG has indicated it will provide the data and calculations underlying Dr. Cowan's original results, but has not yet produced those data and calculations. *See* Exhibit B, emails from SDC's counsel to IPG's counsel demanding production. Therefore, the SDC and the Judges are left to guess at what caused the differences between Dr. Cowan's initial and amended results. Erdem Dec. ¶ 12-13.

But we do not have to guess at Dr. Cowan's reasons for making the change. He candidly admits that it was because IPG wanted different results. Dr. Cowan claims that he was not aware of the SDC's Notice of Acceptance of IPG's satellite results, but that is not the relevant point. *He only changed his testimony after IPG called him and asked him to.* Cowan Dec. ¶ 11. That request is not a justifiable explanation for any change. And without any proof that Dr. Cowan's

initial calculations were in fact erroneous based on his first methodological formulas, the only conclusion one can reach is that he helped IPG manipulate a different result just to defeat the SDC Notice and Motion.

II. IPG's changes in the Amended Direct Statement prejudice the SDC and give IPG a strategic advantage.

IPG's filing of its Amended Direct Statement prejudices the SDC because IPG induced the SDC's consent on an issue and then changed its position. IPG asks rhetorically what advantage it could have obtained by learning that the SDC were willing to consent to its initial set of satellite distribution figures. Aside from limiting the ability of the SDC to fully evaluate the Amended Direct Statement to identify all changes and potentially relevant discovery requests (which were due the very next day), the answer is simple. IPG had a second chance to tailor its Amended Direct Statement to address the figures it received in the August 22 filings. Moreover, IPG may hope to force the SDC into a settlement of these and other proceedings by delaying a distribution to which the SDC would otherwise be entitled, and by forcing the SDC to choose between further compromising their claims or incurring the extraordinary litigation expenses that these cases have entailed.

In cases involving judicial estoppel and equitable estoppel, which IPG did not address at all, a party that induces reliance causes prejudice because "the facts are shown to be different from those upon which [the opposing party] relied." *Galt v. Phoenix Indem. Co.*, 120 F.2d 723, 726 (D.C. Cir. 1941). This is not a surprising proposition. The SDC were willing to concede the dispute as to an entire category of cases and significantly narrow the scope of these proceedings, only to have IPG seek to change the facts upon which that major decision was made.

IPG argues that it is generally allowed to revise submissions "at any time during the proceeding up to, and including, the filing of the proposed findings of fact and conclusions of

law." 37 C.F.R. § 351.4(b)(3). But the Judges have never interpreted this provision to allow material changes in methodology after the filing deadline, especially when those changes would be unduly prejudicial to other parties. While the SDC do not suggest that a party may never seek leave to amend a pleading to correct a genuine error or mistake, that is not the issue here. IPG's claims are expressly tied to and reliant upon Dr. Cowan's calculations, which in turn are dependent on his methodology. There is no rational basis for any of IPG's percentage changes except Dr. Cowan's testimony. To allow him to change his methodology in order to enable IPG to defeat the SDC Notice and Motion is tantamount to abandoning one set of claims for another and is not an action contemplated by Section 351.4(b)(3).

Quite appropriately, the Judges clearly have the discretion – and have exercised the discretion – to prevent amendments that are improper or prejudicial to other parties. A party that files amended pleadings without showing good cause can obtain obvious strategic advantages, including through use of bait-and-switch tactics. Based on the timing of the Amended Direct Statement, this is what happened here. Even if it is true that Dr. Cowan was not informed about the SDC's Notice of Consent until after he generated his amended report, it would defy logic to suggest that IPG's counsel had not seen the similarities between Dr. Cowan's results and the SDC's numbers. IPG directed Dr. Cowan to change his results after seeing the SDC's Written Direct Statement. Cowan Dec. ¶ 11. There is no good cause or permissible reason for the change, and the Judges should exercise their discretion not to allow it.

III. IPG cannot retroactively manufacture a dispute through an improper Amended Direct Statement.

The SDC adopt and incorporate the arguments advanced by MPAA in its Sept. 16, 2016 *Reply to IPG's Opposition to MPAA Motion to Strike Amended Direct Statement of IPG*. In that Reply, MPAA correctly explains the procedural deficiencies in IPG's filing of the Amended

Direct Statement. IPG has admitted to these deficiencies, noting that it failed in "providing a description of the nominal textual differences between IPG's Direct Statement and Amended Direct Statement." Opposition at 11. This failure is not harmless and remains unremedied, as Dr. Cowan's declarations still have not identified what his purported "errors" were or how his calculations or data were "corrected." Erdem Dec. ¶ 12-13. If anything, the failure of Dr. Cowan to enumerate and clarify these errors leads to the reasonable conclusion that these changes were manufactured after the fact solely to defeat the SDC's Notice and Motion.

IPG has made no legal argument to contest that an improperly filed amended pleading is without legal effect. *See Schmidt v. United States*, 749 F.3d 1064, 1069 (D.C. Cir. 2014). Notably, the D.C. Circuit held in *Schmidt* that the lower court's decision to reject an improper amended pleading is reviewed for abuse of discretion. *Id.* Thus, IPG's claim that rejecting its deficient amended pleading would be "reversible error" is specious. Rejection of IPG's improper pleading is squarely within the Judges' discretion.

Rather than addressing the invalidity of its Amended Direct Statement, IPG argues that its original figures for satellite cases cannot be accepted without accepting IPG's methodology for cable distributions. Opposition at 4. IPG claims that the SDC previously argued, and the D.C. Circuit held, that "the Judges' distribution orders must be based upon a specific methodology, and cannot simply adopt the figures of parties even if the methodological results of the parties come to the identical conclusion." *Id.* The SDC have never made such a ridiculous argument, and the D.C. Circuit has never so held.

All the SDC have argued, and all the D.C. Circuit has held, is that the Judges' award cannot be arbitrary. The Judges' rejection of IPG's improperly filed Amended Direct Statement would not be arbitrary. The SDC's acceptance of IPG's satellite results in IPG's initial Written

Direct Statement is a non-arbitrary basis on which an award can be made, irrespective of the methodology that produced those results.

Curiously, IPG argues that "IPG's counsel did not review or consider Dr. Cowan's report prior to its submission." Opposition at 8, n.9. If true, counsel's failure to review or even consider the report before filing is no excuse. IPG now seeks to burden the SDC and the Judges with the consequences of its counsel's own failure to review its filings prior to submission. All lawyers should know that, before submitting a filing, they have a duty to ensure that their pleadings are supported by a substantial basis in fact. If IPG and its counsel failed to take care with the proposal they submitted to the Judges, they are still bound by the submission they signed and filed.

CONCLUSION

For the foregoing reasons, the Judges should strike IPG Amended Direct Statement.

September 22, 2016

Respectfully submitted,

Matthew J. MacLean /M.W.

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Counsel for Settling Devotional Claimants

CERTIFICATE OF SERVICE

I, Matthew J. MacLean, hereby certify that a copy of the foregoing was sent electronically and by overnight mail on September 22, 2016, to the following:

INDEPENDENT PRODUCERS GROUP
Brian D. Boydston
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10786 Le Conte Avenue
Los Angeles, CA 90024

PROGRAM SUPPLIERS
Gregory O. Olaniran
Lucy Holmes Plovnick
Mitchell Silberberg & Knupp LLP
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Matthew J. MacLean

Exhibit A

Before the
COPYRIGHT ROYALTY JUDGES
Washington, D.C.

In the Matter of **Distribution of the 2004, 2005, 2006, 2007, 2008 and 2009 Cable Royalty Funds**	)	**Docket No. 2012-6 CRB CD 2004-2009 (Phase II)**
In the Matter of **Distribution of the 1999-2009 Satellite Royalty Funds**	)	**Docket No. 2012-7 CRB SD 1999-2009 (Phase II)**

DECLARATION OF ERKAN ERDEM, PH.D.

I, Erkan Erdem, hereby state and declare as follows:

1. I am a Senior Manager at KPMG LLP in the Economic and Valuation Services practice. To assist with the distribution of royalties associated with the retransmission of broadcasts signals by cable in years 2004-2009 and by satellite in 1999-2009, I have been retained by the Settling Devotional Claimants (SDC), one of the two groups of claimants in the Devotional category in the matter of distribution of 2004-2009 Cable Royalty Funds and 1999-2009 Satellite Royalty Funds.

2. I have reviewed both the Original and Amended Direct Statements filed by Independent Producers Group ("IPG") in this proceeding. I have also reviewed IPG's Opposition to MPAA's Motion to Strike Amended Direct Statement which included Dr. Cowan's declaration (dated September 9, 2016) and IPG's Opposition to the SDC's Motion to Strike Amended Direct Statement which included Dr. Cowan's declaration (dated September 13, 2016). On September 16, 2016, I was also provided with Dr. Cowan's data, computer code, and

calculations supporting his findings in his Amended Direct Statement (although the satellite results of these calculations currently do not seem to match the results in either Dr. Cowan's original or amended statements, based on preliminary review). To my knowledge, Dr. Cowan or IPG did not produce Dr. Cowan's data, computer code, or calculations supporting his findings in his Original Statement. Finally, I reviewed the Declaration of Jeffrey S. Gray, Ph.D. submitted as part of MPAA's Reply to IPG's Opposition to MPAA's Motion to Strike Amended Direct Statement of IPG.

3. As I have previously testified, I have identified an important methodological change made in the IPG Amended Direct Statement that fundamentally changes the proposed valuation. This change is reflected in three equations central to the methodology used by Dr. Cowan to calculate satellite shares. I explained in my declaration dated September 9, 2016, that Dr. Cowan changed his methodology, but that he did not fully discuss the nature of the change in his Amended Statement. IPG instead portrayed the difference between Dr. Cowan's Original and Amended statements as follows: "Although the methodology propounded therein was not modified, the correct calculations were substituted for the incorrect calculations, including those for the Devotional category."[1]

4. Even though the dependent variable of Dr. Cowan's regression analysis changed from a linear equation in the Original Statement to a logarithmic equation in the Amended Direct Statement as shown in equations below, this was not mentioned at all in the body of his Amended Direct Statement. Consequently, equations (2) and (3) in Dr. Cowan's testimonies changed, but this change was not fully discussed, either. Despite the significant change in

[1] IPG's Opposition to the MPAA's Motion to Strike IPG's Amended Direct Statement, September 12, 2016.

methodology, Dr. Cowan re-iterated that the revisions between his Original Statement and Amended Direct Statement are "the results of a correction to the data."[2]

5. Dr. Cowan added a sentence in Appendix 2 of his Amended Direct Statement, "A similar result is found when the natural logarithm of Y is used as the dependent variable, except that changes are now expressed as proportional changes." I disagree that this change is "an inconsequential observation about the regression formula."[3] I agree with Dr. Gray that this is "far from inconsequential as evidenced by his change in his calculated 'relative split in number of distant subscribers.'"[4]

6. To understand the meaning and importance of the change Dr. Cowan made, it is important to understand the distinction between a regression that uses variables in their "raw" form without transforming or scaling (also known as a level-level regression) and a log-linear regression (also known as a log-level regression). As Dr. Cowan summarizes in Appendix 2 of his Amended Direct Statement, a regression equation is given by:

$$Y_i = a + bX_i + e_i$$

where Y_i represents the dependent variable; X_i represents the independent variable (also known as the predictor variable); e_i is the random error term; a and b are coefficients to be estimated; and subscript i refers to the i^{th} observation. This functional form is known as the "level-level" regression as both variables are used in their raw, untransformed state. The coefficient b provides an estimate of the marginal effect of a unit change in X on the value of Y. For example, when X increases by a single unit, the left side of the equation would add the amount b to the value of Y. The value b is also known as the rate of change in Y relative to a change in X, as Dr.

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[2] Paragraph 3 of Declaration of Dr. Charles Cowan, September 13 2016.

[3] Paragraph 7 of Declaration of Dr. Charles Cowan, September 13 2016.

[4] Paragraph 6 of Declaration of Jeffrey S. Gray, Ph.D., September 15, 2016.

Cowan explains. More formally, the relationship between changes in X (Δ_X) and changes in Y (Δ_Y) is given by:

$$\Delta_Y = b\Delta_X$$

If one believes that the relationship between any two variables is not necessarily linear, there are other functional forms that can be chosen. Specifically, if one believes that each unit change in X should be associated with a *percentage change* in the value of Y, then one might instead choose to use a "log-level" regression given by:

$$\ln(Y_i) = a + bX_i + e_i$$

In a log-level regression, the relationship between X and Y is not linear. For example, when X increases by a single unit, the left side of the equation would roughly multiply Y by a percentage represented by b. This is approximated as:

$$\%\Delta_Y \approx 100b\Delta_X$$

Dr. Cowan characterizes the impact of the change in the functional forms on the meaning of the estimated coefficient b as follows:

> A similar result is found when the natural logarithm of Y is used as the dependent variable, except that changes are now expressed as proportional changes.[5]

A level-level regression is not similar to a log-level regression. If the results are similar in a particular circumstance, it is purely by happenstance. The data and calculations provided to me so far do not support Dr. Cowan's conclusion that the results are similar, because IPG appears to have only produced the data and calculations for log-level regression, as described in its Amended Direct Statement, and not a level-level regression, as described in its Original Direct Statement.

---

[5] Appendix 2 of Dr. Cowan's Amended Direct Statement, August 30, 2016.

7. The choice between level-level and log-level models (and other options) depends on the properties of the underlying data and the assumptions underlying the models. A typical example economists use to explain when log-level functional forms should be preferred, based on real-world experience, is the relationship between wages and education. It may be more realistic to assume that each year of education, everything else equal, increases wages by, say, 6 percent, instead of assuming a fixed dollar amount, say, $5,000.

8. To demonstrate the impact of the choice between a level-level and log-level regression, I use a sample data set from the textbook I use in a graduate level econometrics class that I teach, which happens to be one of the textbooks Dr. Cowan cites in Appendix 2 of his statements. This data set includes wage (average hourly earnings) and education (years of education) data for a sample of 526 individuals from the workforce in 1976.[6] The results from a level-level and a log-level regression are provided in Exhibit 1. The estimate of $\hat{b} = .5414$ in the level-level model indicates that each year of education is associated with an increase of approximately 54 cents in hourly earnings, on average. The estimate of $\hat{b} = .0827$ in the log-level model indicates that each year of education is associated with an increase of approximately 8 percent in hourly earnings, on average.

Exhibit 1. Level-Level and Log-Level Regression Analysis Results

Independent Variable	Level-Level Estimate Dependent Variable: Wage	Log-Level Estimate Dependent variable: Ln(Wage)
Education	.5414 (10.17)**	.0827 (10.94)**
Constant	-.9049 (-1.32)	.5838 (6.00)**

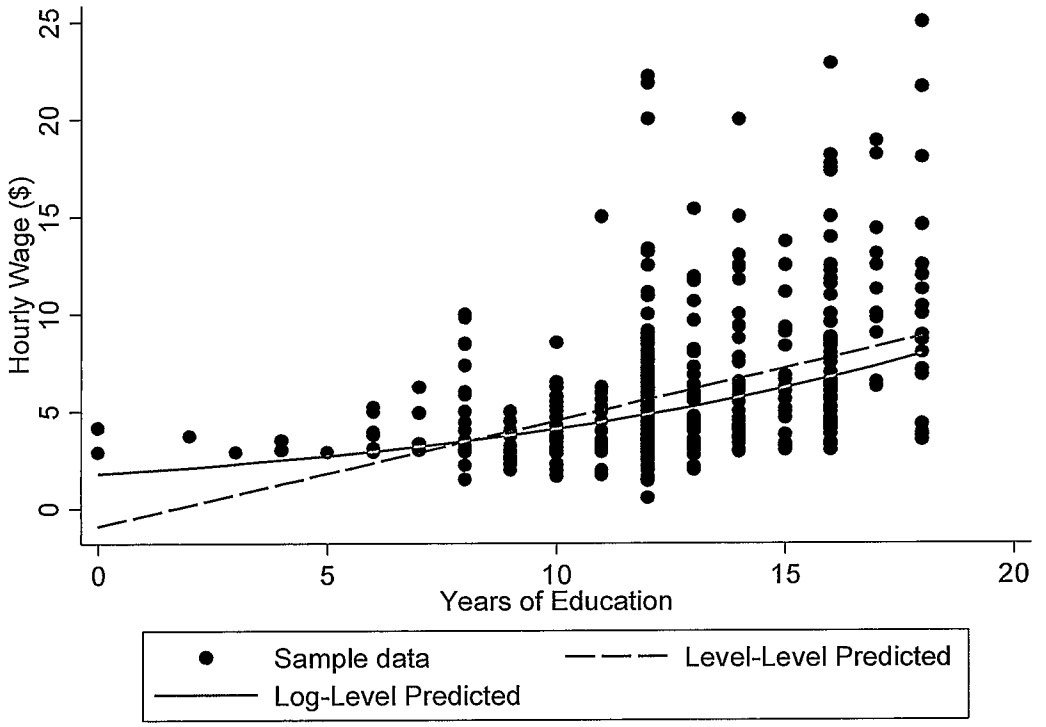
[6] Wooldridge, Jeffrey M., *Introductory Econometrics, A Modern Approach.* 4th ed., South-Western Cengage Learning, Mason Ohio, 2008.

R^2	0.16	0.19
N	526	526

Note: * p-value < 0.05; ** p-value < 0.01. t-statistics are presented in parentheses.

9. In addition to the significant change in the estimated coefficient and its interpretation, the impact of the change can be seen by plotting education and predicted wages. Exhibit 2 provides a scatter plot of education and predicted wages under the two models which shows that one would obtain very different predicted values for wages.

Exhibit 2. Level-Level and Log-level Predicted Values for Wage



As can be seen, predictions (of wage) in a level-level regression results in a straight line when graphed on a natural scale. Predictions (of wage) in a log-level regression results in an upward curving line when graphed on a natural scale. This upward curving line is characteristic of models that use the natural logarithm of dependent variables. I present the predicted values of wage (the solid and dashed lines) in Exhibit 3.

Exhibit 3. Predicted Values for Wage

Years of Education	Level-Level Predicted Values of Wage	Log-Level Predicted Values of Wage
0	-0.9048516	1.792789
2	0.1778669	2.115437
3	0.7192262	2.297923
4	1.260585	2.496151
5	1.801945	2.71148
6	2.343304	2.945383
7	2.884663	3.199464
8	3.426023	3.475463
9	3.967382	3.77527
10	4.508741	4.100941
11	5.0501	4.454705
12	5.591459	4.838985
13	6.132819	5.256416
14	6.674178	5.709856
15	7.215537	6.202412
16	7.756896	6.737457
17	8.298256	7.318657
18	8.839615	7.949996

Note: The table presents actual values of years of education that are present in the sample data. No individual with one year of education exists in the sample.

10. One could plot the same points on a logarithmic scale, in which case the predictions of the level-level regression would appear as a curve (sloping upwards, but with a diminishing slope) and the predictions of the log-level regression would appear as a straight line. This is what is meant in the passage from Mathematical Analysis for Economists, quoted by Dr. Cowan:

> equal distances between points on a natural scale indicate equal absolute changes in the variables, and equal distances between points on a logarithmic scale indicate equal proportional changes in the variable.[7]

The scale matters.

11. A commonly known illustration of the difference between a linear and a logarithmic scale is the difference between simple interest and compound interest. A calculation

[7] Paragraph 9 of Declaration of Dr. Charles Cowan, September 13 2016.

of simple interest can be expressed as an addition of a fixed amount (a percentage of the principal) added to the sum for each period of time, resulting in a linear relationship between time and interest accrued. A calculation of compound interest, on the other hand, cannot be expressed as a fixed amount for each period of time. When compound interest is applied to the principle (or when growth of investment is exponential), a level-level regression analyses would lead to incorrect conclusions. To demonstrate, assume that an individual deposits $1,000 in year 2000 in an interest-bearing account with an annual interest rate of 10% compounded continuously. The balance (Y) of the account would reach to $2,718 in 2010 (over ten years).[8] If a level-level regression is used to estimate the relationship between the balance (or the interest accrued) and time, one would get the following estimated equation:

$$\mathrm{Y} = 177.6 + 828.9\, t$$

where t represents the elapsed time in years. If the value of the balance in 2010 is estimated in 2000 using this estimated equation (by substituting $t = 10$), one would get $2,605, which is approximately $113 less than the correct amount (equal to $2,718 given by $\$1{,}000 * \exp(10 * 0.1)$. If, instead, a log-level regression is used, one would obtain the following estimated equation:

$$\ln(\mathrm{Y}) = 6.90776 + 0.1\, t$$

Finally, if the value of the balance is estimated using this estimated equation, one would get $2,718 (given by $\exp(6.90776 + 0.1 * 10)$, which is equal to the correct amount. Using the correct functional form based on the data characteristics and economic intuition matters.

[8] The balance is given by: $\mathrm{Y}_t = \mathrm{Y}_0(1 + r)^t$ where Y_t is the initial investment, Y_t is the value in year t, and r is the interest rate.

12. The choice of the functional form that might be more appropriate for the relationship between subscribers and number of devotional IPG (or SDC) programs offered is not clear. Dr. Cowan does not provide the intuition for the model he selected to present in his findings. Rather than providing an economic or statistical motivation for the functional form in his regression analysis, Dr. Cowan presented a revised methodology and tried to characterize the change as an insignificant correction to an error in calculations.[9] Rather than providing the answer to "why" there were changes, Dr. Cowan offered the following explanation:

> "The more relevant question is why were there changes to the allocations and the data. The answer is simple – after preparation of the August 22nd report, IPG's counsel immediately inquired about the produced results, and during the course of the next week I discovered errors in the earlier processing of the data."[10]

It is not clear to me whether IPG's counsel inquired about the functional form or the economic intuition used by Dr. Cowan, or whether something else led Dr. Cowan to change the level-level regression analysis in his Original Statement to the log-level regression analysis in his Amended Direct Statement.

13. In the short amount of time I have had access to Dr. Cowan's data, computer code, and calculations supporting his findings in his Amended Direct Statement, I have found the data sufficient to replicate Table 1 of Dr. Cowan's Amended Direct Statement presenting his proposed distribution of Cable royalties between IPG and the SDC. However, I was not able to do so for Table 2 in the same statement, which presented his proposed distribution of Satellite royalties between IPG and the SDC. As a result, I cannot fully understand how Dr. Cowan's regression analysis leads to the distribution of Satellite royalties. It is not clear what dataset was used to produce the proposed Satellite distribution in either the Amended Direct Statement or the

[9] *See also* Paragraph 7 of Declaration of Jeffrey S. Gray, Ph.D., September 15, 2016.

[10] Paragraph 11 of Declaration of Dr. Charles Cowan, September 13 2016.

Original Direct Statement, and there is no way to determine whether potential calculation errors or differences in the data explain the changes in Dr. Cowan's submissions. Nor has IPG provided any explanation or demonstration of the calculations that would allow me to test the explanation that changes in the data and calculation errors compelled the changes.

14. To conclude, I do not view the change between Dr. Cowan's Original Statement and Amended Direct Statement as a correction of an error, but as a change in methodology. A change in the functional form of a regression model is a modification to the methodology and not a correction in the calculations. Without access to Dr. Cowan's data, computer code, and calculations for his Original Statement, I cannot determine if, in addition to the change in the methodology, there was a correction to the calculations between the Original and Amended Direct Statement of Dr. Cowan.

I hereby declare under penalty of perjury that the foregoing is true and correct.

September 22, 2016

Erkan Erdem, Ph.D.

Exhibit B

From:	MacLean, Matthew J.
To:	Brian D. Boydston, Esq.; Harrington, Clifford M.; Draper, Victoria L.; goo@msk.com; lhp@msk.com; Warley, Michael A.
Subject:	RE: IPG Discovery Responses
Date:	Tuesday, September 20, 2016 5:59:05 PM
Attachments:	image001.png image002.png

Brian,

In addition to the matters raised below, it appears that Dr. Cowan's satellite results produced in discovery do not match his results reported in either his initial or his amended written direct statement. Please explain, and produce the data and code files used to generate the results that he *actually testified to*. More "errors"?

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From: MacLean, Matthew J.
Sent: Tuesday, September 20, 2016 11:39 AM
To: 'Brian D. Boydston, Esq.'; Harrington, Clifford M.; Draper, Victoria L.; goo@msk.com; lhp@msk.com; Warley, Michael A.
Subject: RE: IPG Discovery Responses

Brian,

I am writing to demand that IPG immediately produce its data and code files used to generate Dr. Cowan's results in his initial written direct statement in the 1999-2009 satellite and 2004-2009 cable cases. The production you have provided appears only to contain code files for the amended written direct statement.

Multiple discovery requests sought production of data and code files for the initial results, and IPG asserted no objection to these requests (other than improper and non-specific general objections that are tantamount to making no objection at all). *See, e.g.*, SDC Document Requests 1, 4, 5, 7, 15, 19.

As you know, our reply in support of our motion to strike IPG's amended direct statement is due on Thursday. The reason for the changes between IPG's initial and amended direct statements, and whether they were truly the result of an "error" or a change in methodology from a linear

regression to a log-linear regression, is a central issue – both in this motion and more generally in connection with IPG and Dr. Cowan's credibility. IPG and Dr. Cowan have yet to identify a single "error," or to produce any document identifying or allowing us to identify any "error" resulting in the very substantial differences between the results in the original and amended written direct statement. It certainly appears that IPG's failure to produce the documents required was designed to interfere with our ability to identify the differences ourselves in advance of replying to your opposition.

Relatedly, no files have been produced supporting Dr. Cowan's statement in his amended direct statement, "A similar result is found when the natural logarithm of Y is used as the dependent variable, except that changes are now expressed as proportional changes." This statement would appear to indicate that Dr. Cowan performed two regressions – one linear and one log-linear – and compared the results. But the *only* computation in the documents produced uses a log-linear regression, consistent with the formula in the amended direct statement. None contains a linear regression consistent with the initial direct statement. Either Dr. Cowan never actually performed the comparison described, or IPG has withheld documents.

Please provide the necessary files today. I am available to meet and confer today if you would like.

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From: Brian D. Boydston, Esq. [mailto:brianb@ix.netcom.com]
Sent: Monday, September 12, 2016 4:51 PM
To: Harrington, Clifford M.; MacLean, Matthew J.; Draper, Victoria L.; goo@msk.com; lhp@msk.com
Cc: worldwidesg@aol.com
Subject: IPG Discovery Responses

Counsel,

Attached hereto are IPG's responses to discovery requests of the SDC and MPAA.

Brian Boydston